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<b>Addressing</b>			
<b>From</b>		<b>To</b>	
"Butcher, Jon" <Jon.Butcher@tetrattech.com>		Ben Cope/R10/USEPA/US@EPA Jayshika Ramrakha/R10/USEPA/US@EPA Helen Rueda/R10/USEPA/US@EPA	
<b>CC</b>		<b>BCC</b>	
"Kennedy, Todd" <Todd.Kennedy@tetrattech.com> "King, Amy" <amy.king@tetrattech.com> Jayne Carlin/R10/USEPA/US@EPA			
<b>Description</b>		Form Used: Memo	
<b>Subject</b>		<b>Date/Time</b>	
RE: Pend Oreille CFA memo		10/18/2012 05:03 AM	
<b># of Attachments</b>	<b>Total Bytes</b>	<b>NPM</b>	<b>Contributor</b>
0	32,751		Helen Rueda
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Body

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I neglected to mention that this version is still open for your comments. Let me know if you want any further refinement in the wording, after which I will finalize the memo as a pdf.

**Dr. Jon Butcher, P.H.** | Director

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[jon.butcher@tetrattech.com](mailto:jon.butcher@tetrattech.com)

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**From:** Butcher, Jon

**Sent:** Wednesday, October 17, 2012 8:10 PM

**To:** Ben Cope; Jayshika Ramrakha; Helen Rueda

**Cc:** Kennedy, Todd; King, Amy; Carlin.Jayne@epamail.epa.gov; Steg, Ron

**Subject:** Pend Oreille CFA memo

Please find attached the updated response on the Pend Oreille comment on cumulative frequency analysis (CFA) submitted by the Kalispell Tribe.

Jon Butcher  
Tetra Tech

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<b>Addressing</b>			
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"Whiley, Tony (ECY)" <TWHI461@ECY.WA.GOV>		Helen Rueda/R10/USEPA/US@EPA	
<b>CC</b>		<b>BCC</b>	
<b>Description</b>			Form Used: Memo
<b>Subject</b>		<b>Date/Time</b>	
RE: Boundary Model Data		11/13/2012 09:12 AM	
<b># of Attachments</b>	<b>Total Bytes</b>	<b>NPM</b>	<b>Contributor</b>
0	19,606		Helen Rueda
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Helen –

Since the physical depiction of the natural and existing scenarios differ (for instance dams not present for natural condition) a different segment numbering scheme was used. (So it's really just a model set up difference.) Despite the difference in the segment numbers, there is still a one to one alignment (since the actual length of the river hasn't changed) - and that's the way that it's presented in the spreadsheet.

**From:** Rueda.Helen@epamail.epa.gov [mailto:Rueda.Helen@epamail.epa.gov]  
**Sent:** Friday, November 09, 2012 2:26 PM  
**To:** Whiley, Tony (ECY)  
**Subject:** RE: Boundary Model Data

Thanks Tony - I do have one question. Why are the model segment numbers different between the existing and natural scenarios near the dams? Do you compare them by the number of the segment or by the way they are aligned?  
 Have a good weekend  
 Helen

▼ "Whiley, Tony (ECY)" ---11/08/2012 03:58:00 PM---Helen - I've attached a spreadsheet with the daily maximum temperatures for the Boundary segments.

From: "Whiley, Tony (ECY)" <[TWHI461@ECY.WA.GOV](mailto:TWHI461@ECY.WA.GOV)>  
To: Helen Rueda/R10/USEPA/US@EPA  
Date: 11/08/2012 03:58 PM  
Subject: RE: Boundary Model Data

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Helen –

I've attached a spreadsheet with the daily maximum temperatures for the Boundary segments. The data for the various reaches (both natural and existing for 2004 and 2005) are organized by spreadsheet tab. Let me know if you have any questions or need further data.

Tony Whiley

**From:** [Rueda.Helen@epamail.epa.gov](mailto:Rueda.Helen@epamail.epa.gov) [<mailto:Rueda.Helen@epamail.epa.gov>]  
**Sent:** Wednesday, November 07, 2012 3:22 PM  
**To:** Whiley, Tony (ECY)  
**Subject:** Boundary Model Data

Hi Tony

Could you send me the model results for the Boundary model? Just the maximum daily temperatures for the existing and natural conditions model runs.

Thanks

Helen Rueda,  
Office of Water, Watershed Unit  
Region 10 USEPA  
805 SW Broadway, Suite 500  
Portland, OR 97205

(503) 326-3280 work

(503) 326-3399 (FAX)[attachment "Boundary\_DailyMaxT\_Natural\_Existing.xlsx" deleted by Helen Rueda/R10/USEPA/US]

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"Zach Welcker" <zwelcker@kanjikatzen.com>		Sarah Furtak/DC/USEPA/US@EPA	
<b>CC</b>		<b>BCC</b>	
"Deane Osterman" <dosterman@kalispeltribe.com>			
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7/24 Meeting Follow Up		07/31/2012 07:28 PM	
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Sarah:

The attached documents and hyperlink below contain information that is responsive to several of the questions raised by the panel at the Kalispel Tribe's meeting with EPA Headquarters on July 24, 2012. They establish several points:

- 1) Dr. Massmann's report shows that Ecology's cumulative frequency analysis ("CFA") does indeed mask violations of Washington water quality standards at the Idaho-Washington stateline. It also demonstrates that water flowing across stateline is warmer under existing conditions than it was under natural conditions on most days when there are violations of Kalispel water quality standards.
- 2) The highlighted text in the other attachments establishes:
  - a. Ecology employed a 7-day rolling CFA in response to the regulated community's concerns about lag time, and concluded that the results were similar to a pairwise analysis.
  - b. Ecology employed a 30-day CFA and found that the level of impairment was almost the same as a 7-day CFA. Senior Ecology staff supported applying the 30-day CFA as a

means of diffusing an argument from the regulated community about lag time, reasoning that the point is there is still an impairment. Ecology did not provide a scientific basis for using a 30-day CFA.

c. Ecology knew that a 60-day CFA would begin to mask impairment as early as April 2008.

3) The water quality standards at issue in the Willamette TMDL are based on a seven-day moving average of daily maximum temperature. See Willamette TMDL at 4-8, available at <http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt4temp.pdf>. Application of CFA to a 7-DADMax metric does not support applying CFA to the Kalispel Tribe's or State of Washington's 1-DMax temperature standard.

I would very much appreciate it if you would confirm receipt of this email, add the email and attachments to the administrative record, and forward the email on to the members of the review panel and Region 10 (please cc me). Please let us know if the panel has any other questions.

Many thanks.

Zach

Zach Welcker  
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Potential 30-day pooling period.pdf



Rolling 7-day average docs.pdf

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